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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,469	04/07/2004	Xiadong Mao	SONYP034	7556

25920 7590 12/10/2009

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EXAMINER	
FAULK, DEVONA E	

ART UNIT	PAPER NUMBER
2614	

MAIL DATE	DELIVERY MODE
12/10/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/820,469	MAO, XIADONG	
	Examiner	Art Unit	
	DEVONA E. FAULK	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *34-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *34-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *8/9/04* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/18/09 has been entered.

Response to Remarks

2. The applicant amended the claims to overcome the 112 rejection as set forth in the previous office action.

3. Claims 1-33,38-44.

4. The examiner notes that the examiner has determined that since the applicant is not specific about what is the target audio signal, that the target audio signal could be background while modifying the noise is performed with respect to the voice.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Varma et al. (US 2004/0213419) in view of Cezanne (EP 0 652 686) .

Regarding claim 34, Varma discloses a video game controller (Figures 3 and 4), comprising:

a microphone affixed to the video game controller (Figures 3 and 4; page 3, ¶ 0052), the microphone configured to detect an audio signal that includes a target audio signal in a far field relative to the microphone and disturbance noise in a near field relative to the microphone (page 3, ¶ 0052-¶ 0053) ; logic configured to process the audio signal, the logic including, detection signal logic configured to generate a detection signal (noise reduction component , 308, Figure 3; page 4, -¶ 0056 --¶ 0057) and disturbance cancellation logic configured to remove disturbance noise from the audio signal through analysis of the detection signal (page 4, ¶ 0056 --¶ 0057).

Varma fails to disclose that the detection signal is generated through application of an even ordered derivative to the audio signal. The examiner asserts taking an even numbered derivative of a signal is well known in the art. It would have been obvious to modify Varma so that the detection signal is generated by applying an even order derivative to the audio signal to help approximate the sound field.

Varma as modified fails to teach "executing signal decorrelation on the audio signal, the decorrelation acting to reduce an amplitude of the target audio while magnifying the disturbance noise".

Cezanne discloses executing signal decorrelation on the audio signal, the decorrelation acting to reduce an amplitude of the target audio while magnifying the disturbance noise (page 3, line 56-page 5).

It would have been obvious to modify Varma so that the audio signal is decorrelated, the decorrelation acting to reduce an amplitude of the target audio while magnifying the disturbance noise for the benefit of minimizing the sensitivity of a microphone.

Regarding claim 35, Varma as modified discloses wherein the disturbance cancellation logic includes, logic for identifying if a signal sequence of the disturbance noise is associated with the target audio signal (Varma, ¶ 0054 --¶ 0057)..

Regarding claim 36, Varma as modified discloses further comprising multiple microphones, wherein each of the multiple microphones is configured to independently identify whether the disturbance noise is above a threshold level (Varma, ¶ 0054 --¶ 0057).

Regarding claim 37, Varma as modified fails to teach that the detection signal logic includes, downsampling logic configured to reduce an amount of data associated with the detection signal, as compared to the audio signal, by a factor of ten. The examiner asserts that downsampling is well known in the art. It would have been obvious to modify Varma as modified so that the detection logic includes downsampling logic for the benefit of reducing the data rate. The downsampling factor is a matter of design choice.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEVONA E. FAULK whose telephone number is (571)272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devona E. Faulk/
Primary Examiner, Art Unit 2614